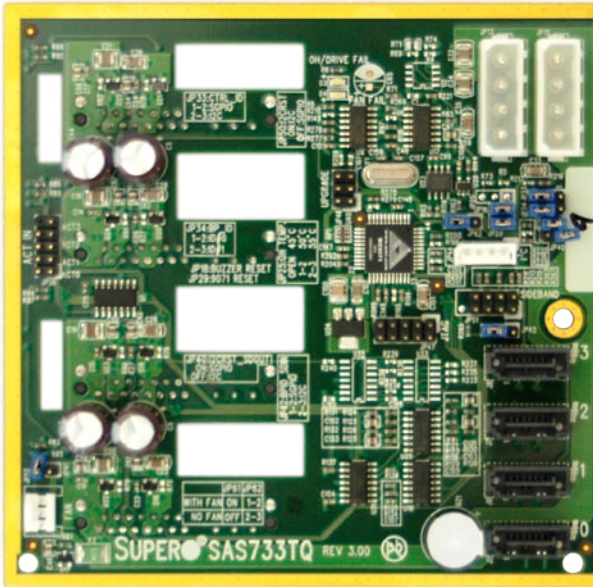


SUPER ●[®]



SAS733TQ Backplane

USER'S GUIDE

Rev. 1.0

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Safety Information and Technical Specifications

1. Safety Guidelines



To avoid personal injury and property damage, please carefully follow all the safety steps listed below when accessing your system or handling the components:

ESD Safety Guidelines

Electric Static Discharge (ESD) can damage electronic components. To prevent damage to your system, it is important to handle it very carefully. The following measures are generally sufficient to protect your equipment from ESD.

- Use a grounded wrist strap designed to prevent static discharge.
- Touch a grounded metal object before removing a component from the antistatic bag.
- Handle the RAID card by its edges only; do not touch its components, peripheral chips, memory modules or gold contacts.
- When handling chips or modules, avoid touching their pins.
- Put the card and peripherals back into their antistatic bags when not in use.

General Safety Guidelines

- Always disconnect power cables before installing or removing any components from the computer, including the SAS733TQ Backplane.
- Disconnect the power cable before installing or removing any cable from the SAS733TQ Backplane.
- Make sure that the SAS733TQ Backplane is securely and properly installed on the motherboard to prevent damage to the system due to power shortage.

An Important Note to the User

- All images and layouts shown in this user's guide are based upon the latest PCB Revision available at the time of publishing. The card you've received may or may not look exactly the same as the graphics shown in this manual.

2. Introduction to the SAS733TQ Backplane

A. Overview

The SAS733TQ Backplane is a highly efficient, highly compatible and easy to use SES-2 backplane that offers the most advanced functionality provided by the Serial Attached/Serial Link Industry in a slim package. With the built-in AMI MG 9071 chip, the SAS733TQ Backplane allows the user to configure RAID 0, RAID 1 and RAID 5, maximizing data storage capability and data transferring reliability. Additionally, the SAS733TQ supports SATA up to 3Gbps and SAS up to 3Gbps with *SES-2 (SCSI Enclosure Services-2) capabilities, providing complete Serial Attached Services and Serial Link Solutions to the market. (*Refer to the section below.)

B. Backplane Features

The SAS733TQ Backplane supports the following features when it is installed on a motherboard that has an onboard SAS controller:

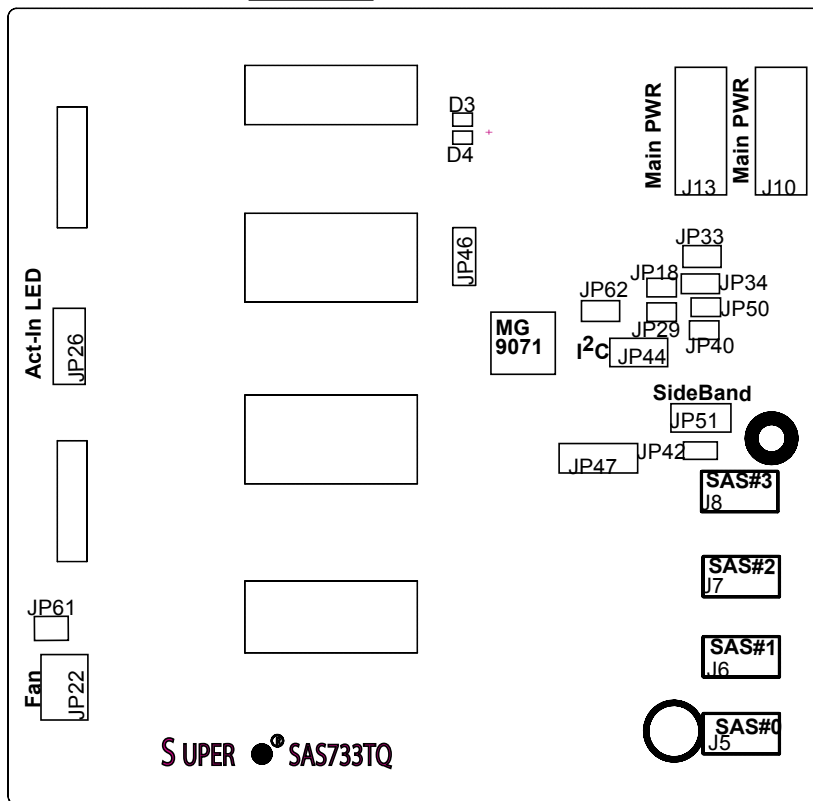
1. Compatible with SATA drives
2. Supporting SAS drives with a transfer rate of 3Gbps
3. Supporting I²C Interface to communicate with SAS/SATA Host Bus Adaptors (HBA)
4. Minimizing the need for cables and connectors, uncluttering server space, and providing a trouble-free installation environment for the user
5. Supporting SES-2 (SCSI Enclosure Services-2) protocol, providing the following features:
 - Drive activity and drive failure indication for each drive slot
 - Overheat/drive failure alarm via a buzzer installed on the backplane
 - An overheat/drive failure LED Indicator built in
 - Temperature Monitoring via a 2 wire (I²C) temperature sensor in the MG 9071 chip

3. Jumper Settings and Pin Definitions

A. Front Connectors and Jumpers

A-1 Front Jumper/Connector Locations

Front View



A-2. Front Panel Connectors

1. JP10/JP13: Backplane Main PWR Connectors
2. JP44: I²C Connector
3. JP51: Sideband Header
4. SAS 0-3 Connectors: SAS#0 (J5), SAS#1 (J6), SAS#2 (J7), SAS#3 (J8),
5. JP26: Activity LED Header
6. JP22: Fan Header

A-3. Front Panel Connector Pin Definitions

1. Backplane Main Power Connectors (JP10, JP13) Pin Definitions

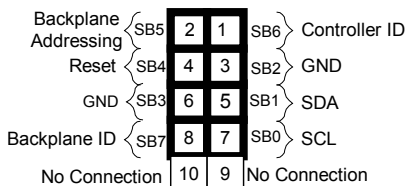
You must use the 4-pin power connectors: JP10 and JP13 to provide adequate power to the Backplane. See the table on the right for pin definitions.

**Backplane Main
PWR
4-pin Connector**

Pins #	Definition
1	+12 V
2 & 3	Ground
4	+5V

2. Sideband Header: JP51

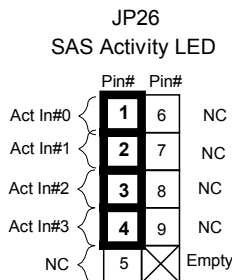
The Sideband Header is located at JP51 on the front panel. For SAS-II to work properly, please connect an 8-pin Sideband cable to JP51 as shown on the right. See the table for pin definitions.



Sideband Pin Definitions (JP51)

3. Activity LED Header: JP26 Pin Definitions

The Activity LED Header, located at JP26 on the front panel, transmits signals to indicate the activity status of each SAS slot. For the Activity LED Header to work properly, please connect a 4-pin LED cable to Pin 1 to Pin 4 of JP26 as shown on the right. See the table in Section A-5 for pin definitions.



(*Note 1: "NC"=No Connection,
Note 2: Connect a 4-pin LED cable to Pin1-Pin 4 of JP26 only.)

4. 3-pin Fan Header: JP22 Pin Definitions

The 3-pin Fan Header is located at JP22 on the front panel. To prevent Overheat, please connect an 3-pin fan cable to JP22. See the table for pin definitions. (*Notes: 1. The Fan Header uses DC power. 2. Default: Fan Disabled.)

Fan Header Pin Definitions

Pin Number	Definition
1	Ground (black)
2	+12V (red)
3	Tachometer

Caution: Fan headers are DC power.

A-4 Front Overheat/Drive Failure LED Indicators: D3/D4

Front LED	State	Specification
D3 (Front)	On	Overheat , Drive Failure or Fan Failure
D4 (Front)	On	Fan Failure Only

A-5 Front Panel Jumper Settings and Pin Definitions

Jumper	Description	Definition
JP18	Open (*Default)	Normal
	Short	Buzzer Reset
JP26	Open (*Default)	Act #0-3 In
	1	Act In #0
	2	Act In #1
	3	Act In #2
	4	Act In #3
JP29	Open (*Default)	Normal
	Short	MG9071 Reset
JP33	1-2	I ² C Controller ID: SGPIO
	2-3 (*Default)	I ² C Controller ID: I ² C
JP34	1-2 (*Default)	I ² C Backplane ID: ID#0
	2-3	I ² C Backplane ID: ID#1
JP40	Short	I ² C Reset: SGPIO
	Open (*Default)	I ² C Reset: I ² C
JP42	1-2	I ² C Backplane ID: SGPIO
	2-3 (*Default)	I ² C Backplane ID: I ² C
JP50	Open	I ² C Reset: SGPIO
	Short (*Default)	I ² C Reset: I ² C (On)
JP51	Open (*Default)	SideBand Header

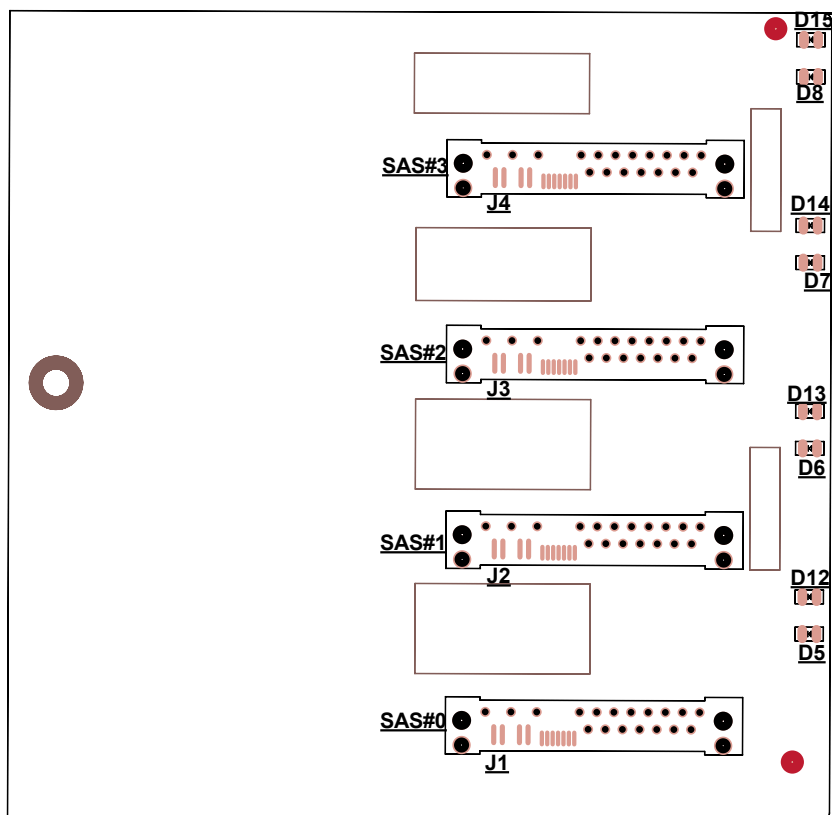
A-6 Fan Enable/Disable

	JP61	JP62
Fan Enabled	On	Pins 1-2
Fan Disabled	Off	Pins 2-3

B. Rear Connectors and LED Indicators

B-1 Rear Connector/LED Indicator Locations

Rear View



B-2 Rear Connectors

Rear Connector	Specification
J1 (Rear)	SAS#0 HDD (connected to HDD)
J2 (Rear)	SAS#1 HDD (connected to HDD)
J3 (Rear)	SAS#2 HDD (connected to HDD)
J4 (Rear)	SAS#3 HDD (connected to HDD)

B. Rear Connectors and LED Indicators**B-3 Rear LED Indicator Descriptions**

Rear LED Indicators	Specification
D12 (Rear)	SAS#0 Activity LED
D13 (Rear)	SAS#1 Activity LED
D14 (Rear)	SAS#2 Activity LED
D15 (Rear)	SAS#3 Activity LED
D5 (Rear)	SAS#0 Fail LED
D6 (Rear)	SAS#1 Fail LED
D7 (Rear)	SAS#2 Fail LED
D8 (Rear)	SAS#3 Fail LED

Notes